DEPARTMENT OF THE NAVY
COMMANDING OFFICER
NAVAL AIR STATION
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LEMOORE, CALIFORNIA 93246-5001

NASLEMINST 5230.2D
20
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NAS LEMOORE INSTRUCTION 5230.2D

From: Commanding Officer, Naval Air Station, Lemoore

Subj: LIFE CYCLE MANAGEMENT POLICY AND APPROVAL REQUIREMENTS FOR INFORMATION SYSTEM PROJECTS

Ref: (a) CINCPACFLTINST 5231.2D
(b) COMNAVAIRPACINST 5231.1B
(c) NASLEMINST 7000.6

Encl: (1) Abbreviated System Decision Paper
(2) Hardware and Software Standards and Specifications

1. Purpose. To outline procedures for the acquisition of computer systems by departments and special assistants; provide general hardware and software standards minimum specifications for selecting systems and system support procedures.

2. Cancellation. NASLEMINST 5230.2C

3. Scope. References (a) and (b) outline Information System (IS) life cycle management and acquisition requirements for Automated Information Systems (AIS), which include services, word processing, data communications and automated resources, whether government owned or contractor supplied.

4. Objectives

a. Provide procedures to standardize the acquisition, maintenance and support of information systems, equipment and software.

b. Provide step-by-step procedures to plan, define and justify the requirements for procuring information systems, equipment and software.

c. Establish standards and specifications for both hardware and software components of information systems.

d. Establish a list of approved commercial software packages.

e. Establish a method for accounting and reporting information systems, equipment and software.

5. Action

a. Accountability. Department Heads and Special Assistants responsible for the acquisition of information systems support within their organizations shall:

(1) Plan for present and future information system requirements, phasing out older information systems and develop a Five Year Plan for department information system requirements. An annual update to the Five Year Plan and budget requirements will be submitted to the AIS Department (Code 20).

(2) Ensure appropriate Abbreviated System Decision Paper (ASDP) documentation is developed to justify the need for each information system. Per reference (b), information systems covered include personnel costs (e.g., functional, technical, management, support); services (e.g., maintenance, training, support); facilities (e.g., site preparation, special equipment); information technology (e.g., computer hardware, software, supplies, spare parts) and data communication. Documentation will be developed and submitted using enclosure (1) as a guide.

(3) Submit ASDP's to the Automated Information System Department for review.

(4) Submit prepared requisitions and copies of documentation for submission with ASDP number annotated on it to the Automated Information Systems Department.

(5) Maintain a departmental inventory of all information systems, equipment and software packages and a file of documents which justify the acquisition of each system and its related equipment and software.

(6) Control the allocation and use of information systems and related resources within their respective organizations.

(7) Provide the AIS Department with copies of all local unique programs developed or modified for NAS Lemoore. This will include source code and run-time copies.

b. Property Record Maintenance. The Comptroller Minor Property Coordinator is responsible for accounting for each

information system and related equipment following the property accounting procedures of reference (c).

c. Hardware, Software and Support Services. The AIS Department is responsible for:

(1) Assisting department heads and special assistants in:

(a) Analyzing and justifying the requirements for information systems, equipment and software.

(b) Selecting and acquiring information systems, equipment and software from Navy standard contracts, GSA sources and commercial vendors.

(c) Designing and developing new systems for special requirements.

(2) Establishing new hardware and software standards for NAS Lemoore as technology evolves.

(3) Maintaining a list of approved hardware and software products meeting the standards and specifications established by the station.

(4) Coordinating the availability of local unique software and maintaining a list of Navy-wide software applications available to users.

(5) Maintaining a master inventory of NAS Lemoore's information systems, equipment and software.

(6) Reviewing and approving ASDP and life cycle documentation of information systems prior to submission of request to Commander, Naval Air Force, U.S. Pacific Fleet (COMNAVAIRPAC).

(7) Developing and submitting an annual budget exhibit for information system support requirements.

(8) Reviewing and submitting an annual update to the Five Year Plan for information systems to COMNAVAIRPAC.

(9) Providing the following:

(a) Oversight and coordination of hardware and software support.

(b) Modular level maintenance of small systems and equipment.

(c) Technical assistance for installing and configuring small systems and peripherals.

(d) Software support of approved application programs.

(10) Assisting in the transition of local unique software applications to commercial or government off-the-shelf programming.

(11) Maintaining repair and trouble call logs.

(12) Maintaining spare parts inventory for maintenance of small systems and equipment.

(13) Submitting budgets for parts and services required to perform maintenance and support of small systems on station.

d. System End Users. Information system users will:

(1) Maintain the computer environment free from smoke, dust, vibrations and liquids.

(2) Report all small computer system malfunction to department point of contact.

(3) Operate systems within specified limits and use approved electrical surge suppresser devices at all times.

(4) Comply with manufacturer instructions so as not to void warranties.

(5) Protect copyrighted software packages by appropriate security and storage measures.

(6) Make changes to local unique software applications as approved.

(7) Submit all AIS Services Requests (ASR's) for local unique programming and Local Area Network (LAN) surveys to the AIS.

6. Acquisition Policy and Procedures

a. All procurement requests for information systems, including equipment and software, must be submitted to the AIS Department for review and approval. Procurement will be based on technical evaluation of the requirements delineated in the ASDP. Each request must include the following:

(1) An ASDP prepared as outlined in enclosure (1).

(2) A requisition (DD Form 1348-6) indicating the description, Navy Contract Number, cost, etc. of an item (or DD Form 1348-1 for stock numbered items).

b. All AIS equipment (hardware and software) will be procured from Navy standard contracts or approved GSA contracts. Microcomputer requirements must meet the standards and specifications outlined in enclosure (2). Requests to purchase from sources outside these contracts must be endorsed by the AIS Department.

c. All incoming AIS equipment, whether newly purchased or pushed from another activity, will be received, bar-coded if applicable, inventoried and issued by the AIS Department.

7. Excess, Beyond Economical Repair (BER), Obsolete, Transferred and DRMO Equipment Policy

a. Departments will turn in all excess and unused AIS Department hardware and software to the AIS for reutilization.

b. All BER and obsolete equipment will be turned over to the AIS Department for disposal processing.

c. Transfer of any AIS hardware and/or software between departments, other activities and/or tenant commands will be reviewed and approved by the AIS Resource Division and AIS Department prior to the transfer.

d. All AIS equipment turned in or transferred will be accompanied by a completed Transfer of AIS Equipment (NAS Lemoore Form 5230/39).

e. DRMO AIS equipment is not approved for use on the station.

8. Hardware and Software Standards. To maintain compatibility, inter-operability and LAN/WAN connectivity of microcomputers, the standards and specifications of enclosure (2) will be applied to select information systems, equipment and software.

9. Forms. Requisition forms (DD form 1348-6) and (DD form 1348-1) may be obtained from SERVMART and Transfer of AIS Equipment (NAS Lemoore Form 5230/39) may be obtained from the AIS Department.

D. E. Bealer

D. E. BEALER
Acting

Distribution: (NASLEMINST 5215.2V)
List A

# ABBREVIATED SYSTEM DECISION PAPER

Activity: NAS Lemoore, CA 93246-5001 Tracking No:

Unit Identification Code (UIC): N63042 DN. NO: 1011

Major Claimant: CINCPACFLT Department:

Point of Contact: DSN:

Paragraph 1. Need. Outline the need for automation as related to specific elements of the activity's mission. Briefly summarize the functional requirements and information dependent tasks the information system would process. Describe the current method, quantity and evaluate the impact of maintaining capability.

Paragraph 2. Proposed Solution. Summarize the selected automatic data processing solution (including hardware and software) intended to satisfy the information processing need, and identify various assumptions and constraints considered in the selection. Indicate milestone schedule of planned events e.g., target dates for acquiring equipment and implementing various applications.

Paragraph 3. Other Alternatives Considered. Summarize any other alternatives considered and explain why each is not selected as a proposed solution to the need for automation.

Paragraph 4. Cost and Benefits. Summarize projected costs (personnel, hardware, software and facilities) of each alternative in becoming an operational system and identify the expected benefits (improvements to functional support, cost saving, etc.). Give the cost/benefit rationale for selecting the recommended alternative. Analysis should include quantitative factors as well as qualitative.

Paragraph 5. Interface Considerations. Describe planned and potential interface with systems/procedures external and internal to the organization. Indicate anticipated advantages or problems associated with system interfaces. Data communications requirements should be addressed in this paragraph.

Paragraph 6. Funding. State whether funds are available to support the life Cycle cost for the selected alternative. Identify the source and type of funding.

Paragraph 7. Other Comments. Include any additional information which will facilitate understanding in evaluating the request. Address training, security/privacy, maintenance, mobility and site preparation requirements.

Encl (1)

# HARDWARE AND SOFTWARE STANDARDS AND SPECIFICATIONS

1. Introduction. Standards and specifications delineated in this enclosure apply to small system computers, peripherals and software items. NAS Lemoore will use these standards and specifications as a baseline to standardize systems and software, and satisfy both current and future requirements of the end user, Local Area Networks, Wide Area Networks and Naval Air Station Lemoore.

2. Hardware standards and specifications

a. Small System Computer. This category refers to a group of items commonly known as Personal Computer (PC), server, workstation, desktop computer, or smart-terminal.

(1) General Specifications. The small system computer must be comprised of commercially available modular components; be expandable to form a system that is adaptable to a wide range of information management tasks (e.g., terminal, client/server, multimedia, etc.) and be capable of operating MS-DOS, Windows and Novell Netware software. It must be fully compatible with systems previously procured by NAS Lemoore, so any modification to the system is clear to the end user. A key-lock mechanism is required to prevent unauthorized access to the unit cabinet, including disabling the keyboard unit without powering off the system. As a minimum, all systems and equipment will meet functionality requirements, which include controlled access protection (CAP) and audit trail.

(2) Modes and States of Operation. The small system computer must support two states of operation: Single tasking and multi-tasking. These two states must be available when operating in the modes listed below:

(a) Stand alone.

(b) Local Area Network (LAN) connected. In this mode the system must operate as a server and as a client in conjunction with NAS Lemoore small systems, including providing MS-DOS/NETBIOS network applications software compatibility with these systems.

(c) Smart terminal. In the smart terminal or intelligent work station mode, the small system must operate as a

remote terminal on a multi-user system I and perform local processing (e.g., text editing, graphics processing or input/output data manipulation).

(3) Standard Small System Configuration. The standard configuration must meet the following minimum specifications:

(a) Processor. The processor must be functionally equivalent and fully compatible with 80486-DX (66 MHz or greater), and provide a full 32-bit architecture including 32-bit word length and data path between the Central Processing Unit (CPU) and memory.

(b) Memory. The physical memory size must be at least 8 MB of Single In line Memory Module (SIMM) type memory and expandable to at least 32 MB on the motherboard.

(c) Hard Disk Drive. One 540 MB or greater Intelligent Drive Interface (IDE) or Small Computer System Interface (SCSI) type internal hard disk with an average access time of at least 15 ms. The drive must automatically retract and lock its heads upon loss of power. For LAN servers, a 1 GB Small Computer System Interface type hard disk is recommended with an average access time of 13 ms.

(d) Floppy Drive. One 1.4 MB (3-1/2 inch) and an optional 1.2 MB (5-1/4 inch).

(e) Video Board. One 16-bit or 24-bit 1 MB super Video Graphic Adapter (SVGA) card capable of supporting a minimum of 800 by 600 pixel resolution.

(f) Clock/Calendar. Perpetual clock calendar, including a replaceable battery with a 5-year warranty.

(g) External Communication Ports. Two addressable EIA 232 serial ports (COM1 and COM2) capable of operating at minimum of 19,200 Baud.

(h) A "Centronics" compatible bi-directional port for general printing is required.

(i) Expansion Bus. The Expansion bus must have at least two open ISA, and two PCI Slots.

(j) Keyboard. Standard detachable keyboard with 101 keys, 12 function keys and conform to the ANSI X4.23 standard.

(k) The system must have a bus, serial, or PS2 type mouse device.

(l) BIOS. Password capable BIOS. Selectable boot from A: or C: on boot up.

(m) Tape Backup. A 250 MB or higher tape backup unit is strongly recommended.

(n) Each system must have Network Interface Card (NIC) with RJ-45 and BNC type connectors.

b. Equipment. This group of external devices (also known as peripherals) are connected to the small system computer and form a functional system for performing various tasks. Standards and minimum requirements of these devices are:

(1) Monitor. This device must have a non-glare flat screen with at least 14 inches of diagonal viewing area and must display a minimum of 25 lines with 80 columns. The device must simultaneously display at least 16 colors chosen from a palette of 256 colors, and must support a full color bit-mapped graphics operation with 800 by 600 minimum pixel resolution. Monitor will be non-interlaced with a dot pitch of .28mm or smaller.

(2) Printers. Four types of printers are allowed: Dot-matrix, letter quality, ink jet and non-impact laser printers.

(a) General Specifications. Each printer device must support parallel operation and have a Centronics parallel interface. The dot-matrix and letter quality printers must support: Courier 10, Courier 12, and Prestige elite fonts; friction and tractor paper feeding; printing 132 characters wide at 10 pitch, 156 characters at 12 pitch; and printing six and eight lines per inch. It must also have a Built-in-Test (BIT) feature with easily accessible external operator controls for power, on-line/off-line, advance to top of format lines per inch, single line feed and pitch. For desktop publishing applications, the non-impact laser printer must support the Post Script language.

(b) Dot Matrix Printer. The dot matrix printer must have a 24 pin print head capable of printing the ASCII 256 code

set in at least two print modes; Draft and Near Letter Quality (NLQ). In the draft mode it must be capable of printing at a minimum rate of 150 Characters Per Second (CPS) and at a minimum rate of 50 CPS in the NLQ mode. It must emulate Epson LX and FX compatible code or have at least 8 MB of memory and be expandable to 64 MB. It must accept plain bond paper with lengths of 8.5 to 17 inches and widths of 3 to 15 inches in tractor mode, and widths of 7 to 14 inches in the single sheet mode.

(c) Letter Quality Printer. The letter quality printer will: Print at a minimum rate Of 35 CPS at 80 characters per line; print the ASCII 95 character subset; support proportional spacing; print an original and five legible carbon copies using 20 pound bond paper and separate carbon sheets; print Courier 10, Courier 12, OCR-A and OCR-B fonts (FIPS PUB 21-1 standard); support underlining, boldface subscripting, and superscripting; have a minimum buffer space of 8 KB; and emulate the Diablo 630.

(d) Non-impact Laser Printer. The laser printer will be a PostScript compatible type (desk top publishing application only) with at least 14 internal ROM based fonts that have integer sizes from 4 to 72 points, as well as OCR capabilities. The printer must have: Sufficient RAM to buffer a minimum of one full page (8.5 by 11 inches) of graphics; provisions for upgrading RAM in minimum increments of 415 KB to a minimum of 3 MB; internal ROM-based diagnostic check upon power up; minimum print resolution of 300 by 300 Dots Per Inch (DPI) for both text and graphics; visible indicators to show when the printer is receiving power and is on-line and communicating with a host computer. The printer must also support manual and automatic single sheet paper feeding; and support portrait and landscape printing of internal fonts. It must have at least one input and one output paper tray each of which hold a minimum of 100 sheets of paper. The input tray must be adjustable to support at least 3 paper sizes: 8 by 10.5, 8.5 by 11, and 8.4 by 14 inch. It must support printing of labels (2.5 to 8.5 inches wide and .5 to 14 inches long), envelopes (7.5 to 10 inches long and 3.5 to 7 inches wide), and transparencies (8.5 by 11 inches). The printer must print a full 8.5 by 11 inch page of bit mapped graphics in a maximum of four minutes. Printer must support PCL5 printer language.

(e) Ink Jet Printer. The ink jet printer will print both black and color. Black and color cartridges will be

resident in printer while printing. Switching between color and black printing will be done electronically from a computer. A minimum print resolution will be 600 dpi for black and 600 x 300 for color. Printer shall print a minimum of 1.5 ppm in color and 3 ppm in black. Paper tray will hold at least 75 sheets of 20# paper. Printer will have a Centronics parallel interface to computers.

(3) Modems. This device must provide automatic interface for supporting a minimum of 6 data rates: 300, 1200, 2400, 9600, 14.400, and 28.800; and must operate on non-conditioned commercial telephone lines. It must: provide automatic answering and receiving operation and conform Bell 103, Bell 212A/CCITT V.22, CCITT V.22 BIS, CCITT V.32, CCITT V.42, CCITT V.42 BIS, and MNP 2-5 communication standards. To maintain compatibility with the Station*s small systems, the modem will:

(a) Be software switchable and support the Hayes AT compatible protocols.

(b) Indicate the baud rate upon connection and status during transmission and self-test. (EXT. Modem only)

(c) Have an in-test indicator and modem ready indicator. (EXT. only)

(d) Generate pulse and tone signals.

(e) Have a speaker with adjustable volume to allow the user to monitor dial-up and connection.

(f) Provide synchronous and asynchronous operation.

(g) Have one RJ-11-C modular connector for telephone line and one DB25 connector to interface with a small system computer external modems.

(4) Page Scanner. The scanner unit must have a flat bed scanning surface and be capable of scanning pages up to 8.5 inches wide and 14 inches long. It must scan one 8.5 by 11 inch full page text document in less than 40 seconds with an accuracy rate of at least 85 percent; and one page of graphics including gray level and scaling in less than 90 seconds. The minimum resolution of the scanner must be at least 300 by 300 DPI for line art, halftone, and mixed images. All scanner functions

must be software selectable. The following standard features and components must be included;

(a) Data compression of line art image data to at least 90 percent.

(b) Scaling from 25 percent to 100 percent in 5 percent increments on the X and Y axis while keeping the same ratio between the axis.

(c) ROM-based diagnostics, and diagnostic checking when unit is initially powered on.

(d) OCR software to read text into ASCII file, and convert graphic images from TIFF format to CIF, EPS, and B14P formats.

(5) CD-ROM: Minimum 4X in data transfer with SCSI2, IDE, or standard at BUS CD-ROM interface, 480 msec access time, data transfer rate 200KB/Sec, data capacity of 680 MB, 100 percent MPC Compliant.

(6) Tape backup unit: Capable of storing 250 MB or greater using QIC-80 format or 1 GB or greater "DAT" backup tape storage system.

c. Local Area Network (LAN). This small system consists of a group of small system computers interconnected or networked to form a workgroup commonly called a LAN system, and are mainly used for distributed processing. LAN systems typically improve office productivity (main feature), promote sharing of information resources, and sharing of LAN equipment (i.e., Printers, CD ROMs, scanners, etc.). To maintain compatibility, interoperability, and standardization of LAN systems at VAS Lemoore, they must conform to the IEEE 802.3 standards for an Ethernet backbone. It must also fully support an MS-DOS platform on the server and work stations. The minimum standards and specification for LAN systems at NAS Lemoore are:

(1) Network operating System: Novell Netware 4.XX or higher.

(2) LAN Server: Intel PENTIUM, 60 MHz or greater, 16 MB SIMM RAM, 1.2 GB SCSI Hard driver and tape back-up cartridge DAT unit.

(3) Existing Workstations: Intel 80286 or greater, with Minimum of 8 MHz, 1 MB SIMM RAM, 20 MB IDE Hard driver and 3-1/2 inch and/or 5-1/4 inch diskette drives.

(4) New Workstations: Intel 80486-DX or comparable, 66 MHz, 8MB SIMM RAM, 540KB IDE Hard drive, one 3-1/2 inch diskette drive. The 5-1/4 inch diskette drive is optional. Tape backup unit is optional, but strongly recommended.

(5) Network interface Card: Minimum of 16 bit Ethernet Plus for workstations; and 32 bit Ethernet Plus is recommended for servers. Card must have RJ-11 and BNC type edge connector.

(6) Uninterrupted Power Supply (UPS): American Power Model 800RT or compatible 800 watt UPS system with RS-232 port for server connection.

(7) CD-ROM: Minimum 2X in data transfer with SCSI2, IDE, or standard at BUS CD-ROM interface, 480 msec access time, data transfer rate 200KB/Sec, Data Capacity of 680 MB, 100 percent MPC Compliant.

(8) Tape backup unit: Capable of storing 250 MB or greater using QIC-80 format or 1 GB or greater "DAT" backup tape storage system.

3. Software Standards and Specifications. The standards and specifications in the following sections are for operating systems, applications, and utilities for small system computers. Each section will specify at least one commercial product NAS Lemoore will procurer and use as standard software.

a. Operating Systems (OS). This category of software provides both single tasking and multi-tasking states of operation of small system computers configured for stand alone and LAN operations (i.e., server and terminal functions). Before selecting an OS for procurement the user should first determine which OS (MS-DOS, UNIX, etc.) or platform supports primary software applications most efficiently.

(1) Disk-Operating-System (DOS). This operating system is the most popular for small systems computers at NAS Lemoore, and it is a Navy standard. Microsoft Corporation currently produces one DOS version: MS-DOS 6.X, Because MS-DOS supports a wide variety of commercial DOS based applications software (e.g., Word Processing, Data Base Management, Spreadsheet,

Telecommunication, etc.), NAS Lemoore will continue using MS-DOS as the standard operating system for single and multi-tasking computer systems.

(2) Windows migration. Windows of the future will not only be graphical and multi-tasking, but will drag and drop text and icons between applications, do file management, provide on line hardware configuration management, and provide networking and communication support. The software industry, recognizing the power of Windows, designs most application software to run primarily in Windows. Windows improves both hardware and software performance. Windows of the future will be the most efficient means to run DOS computers/systems.

(3) UNIX System V. This operating system provides both multi-tasking and multi-user operations, and is an alternative to LAN systems in terms of cost effectiveness and improved security if central processing and lower overhead is a prime requirement. UNIX is available from various manufacturers with a one time license fee for an unlimited number of users. NAS Lemoore will use UNIX as a standard operating system for a large Management Information System (MIS), where central processing is a prime requirement and may be viable in future LAN usage.

b. Standard Software. The following sections provide a list of the standard software that NAS Lemoore will use/support on small systems. Waivers to this list must be approved through the Station AIS Department. Use of Windows applications is recommended, and most application software is available in either DOS or Windows version.

(1) Application Software. (Listed in order of preference)

(a) Word Processing: MS-Word.

(b) Spreadsheet: Excel.

(c) Data Base Management: Foxbase/Foxpro, Access.

(d) Presentation Graphics: MS-Power Point.

(e) Desktop Publishing: Microsoft Publisher, Ventura Publisher.

(f) Communications: ProComm Plus, PC Anywhere.

(g) Project Management: Microsoft Project.

(h) Personal Information Manager: ECCO.

(i) General Utilities: Norton Utilities.

(j) Computer Aided Design: Auto CAD, Auto CAD LITE, Facilities CAD II.

(k) E-Mail: MS-Mail.

(2) Security software required are as follows:

(a) Toolbox with IBM Virus Scan.

(b) Secure PC Password Software.

(c) WATCHDOG PC Data Security Software.

4. New Construction. New construction for work spaces at NAS Lemoore will include internal and external wiring for LM's. Unshielded Tauter Parts wiring is recommended for internal LAN's will be laid parallel to telephone wiring and terminate in RJ45 wall jacks. This is based on the philosophy of one computer per desk. The backbones for each building can either be fiber or coax. Conduit and fiber between buildings will be provided for in the construction plans. Recommended material for external LAN's is fiber optics which is capable of meeting Fiber Distributed Data Interface (FDDI) standards. Multi-mode fiber will be used. All external fiber going to buildings will be terminated in light guides or punch panels inside the building. The light guides, punch panels, wiring closet, hubs, etc. will be wall mounted.